

WHAT IS CLAIMED AS NEW AND DESIRED TO BE SECURED BY LETTERS
PATENT OF THE UNITED STATES IS:

1. A tilting valve for dispensing a product from a pressurized container, comprising:
an opening/closing element with at least two inlet apertures, the opening/closing element being capable, in response to a force transmitted to the opening/closing element laterally to a longitudinal axis of said tilting valve, of moving from a closed position to a first open position in which the product under pressure is dispensed at a first flow rate and, in response to a force transmitted to the opening/closing element parallel to the longitudinal axis, of moving from the closed position to a second open position in which the product is dispensed at a second flow rate different from the first flow rate.
2. The valve according to Claim 1, further comprising a valve body, and
wherein the opening/closing element includes a valve stem with a portion which emerges outside the valve body, said valve stem being traversed by an axial channel emerging outside the valve body via an outlet aperture and via at least two inlet apertures which, in the closed position, are isolated from the valve body.
3. The valve according to Claim 2, further comprising a sealing element, and wherein the valve stem includes an annular portion placed inside the valve body, said annular portion incorporating a lip capable, in the closed position, of bearing against the sealing element so as to define in conjunction with said sealing element an annular space isolated from the valve body, with a first inlet aperture emerging inside the annular space.
4. The valve according to Claim 3, wherein at least one second inlet aperture emerges laterally against said sealing element, in the closed position.
5. The valve according to Claim 2, wherein said at least two inlet apertures include a first and a second inlet apertures with different angular positions.

6. The valve according to Claim 2, wherein said at least two inlet apertures include a first and a second inlet apertures with identical cross-sections.

7. The valve according to Claim 2, wherein said at least two inlet apertures include a first and a second inlet apertures with different cross-sections.

8. A device for packaging and dispensing a product, comprising:

a pressurized container holding the product to be dispensed, and

a tilt valve according to Claim 1 coupled to said pressurized container.

9. A device according to Claim 8, further comprising an actuating element to actuate the tilt valve and dispense the product under pressure via at least one dispensing aperture.

10. A device according to Claim 9, wherein the actuating element includes two distinct bearing surfaces, a first bearing surface for moving the opening/closing element laterally and a second bearing surface for moving the opening/closing element axially.

11. The device according to Claim 10, wherein said product is one of a hair product, a personal hygiene product, a make-up product, a skincare product, and a sunscreen product.

12. The valve according to Claim 3, wherein said sealing element is an annular seal placed inside said valve body.

13. The device according to Claim 1, wherein said product is a cosmetic product.

14. The device according to Claim 8, wherein said product is a cosmetic product.

15. The device according to Claim 9, wherein said at least one dispensing aperture is located inside a nozzle.

16. The device according to Claim 15, wherein said nozzle is a swirl nozzle.

17. A valve for dispensing a product, comprising:

a body;

a sealing portion coupled to said body;

a stem coupled to said sealing portion, said stem being radially movable from a closed position to a first open position and axially movable from said closed position to a second open position, said stem having a passage emerging at an outlet opening, a first inlet opening, and a second inlet opening; and

a peripheral portion coupled to said stem and to said sealing portion so as to define a peripheral space around said stem, said peripheral space being isolated from an interior space of said body in said closed position and being open to said interior space in said first and second open positions,

wherein said first inlet opening communicates with said peripheral space in said closed position, and said second inlet opening bears against said sealing portion in said closed position.

18. The valve according to Claim 17, wherein said channel emerges radially at said first and second inlet openings.

19. The valve according to Claim 18, wherein said channel emerges axially at said outlet opening.

20. The valve according to Claim 17, wherein said peripheral portion is annular.

21. The valve according to Claim 17, wherein said peripheral portion is attached to said stem and includes a lip with an edge which reaches said sealing portion in said closed position.

22. The valve according to Claim 21, wherein at least a portion of said edge does not reach said sealing portion in said first and second open positions.

23. The valve according to Claim 17, wherein said second inlet opening is triangular in shape.

24. The valve according to Claim 17, wherein said second inlet opening is oblong in shape.

25. The valve according to Claim 17, wherein said outlet opening communicates with a dispensing head.

26. The valve according to Claim 17, wherein said product is a cosmetic product.

27. The valve according to Claim 17, wherein said first and second inlet openings have a same angular position on said stem.

28. The valve according to Claim 17, wherein said first and second inlet openings have different angular positions on said stem.

29. The valve according to Claim 17, wherein said first and second inlet openings have a same cross-section.

30. The valve according to Claim 17, wherein said first and second inlet openings have different cross-sections.

31. The valve according to Claim 17, wherein said passage of said stem emerges at a third inlet opening which bears against said sealing portion in said closed position.

32. The valve according to Claim 31, wherein said third inlet opening is disposed axially apart from said second inlet opening.

33. The valve according to Claim 32, wherein said second and third inlet openings have different angular positions on said stem.

34. A valve for dispensing a product, comprising:

a body;

a sealing portion coupled to said body; and

a stem coupled to said sealing portion, said stem being radially movable from a closed position to a first open position and axially movable from said closed position to a second open position, said stem having a passage emerging at an outlet opening, a first inlet opening, and a second inlet opening;

wherein said first inlet opening does not bear against said sealing portion in said closed position, said second inlet opening bears against said sealing portion in said closed position, and said second inlet opening having an elongated dimension along a longitudinal axis of said stem.

35. The valve according to Claim 34, further comprising a peripheral portion coupled to said sealing portion and to said stem so as to define a peripheral space around said stem, said peripheral space being closed to an interior space of said body in said closed position and being open to said interior space in said first and second open positions.

36. The valve according to Claim 35, wherein said first inlet opening communicates with said peripheral space in said closed position.

37. The valve according to Claim 34, wherein said second inlet opening decreases in size in a direction toward a bottom of said body.

38. The valve according to Claim 37, wherein said second inlet opening has a triangular shape with an apex located toward the first inlet opening and a base located away from said first inlet opening.

39. The valve according to Claim 34, wherein said second opening has an oblong shape.

40. The valve according to Claim 34, wherein said passage emerges at a third inlet opening which bears against said sealing portion in said closed position.

41. The valve according to Claim 40, wherein said second and third inlet openings are positioned at different locations on a longitudinal axis of the stem.

42. The valve according to Claim 34, wherein said product is a cosmetic product.

43. A device for dispensing a product, comprising:

a body;

a sealing portion coupled to said body;

a stem coupled to said sealing portion, said stem having a passage emerging at an outlet opening, a first inlet opening, and a second inlet opening; and

a dispensing head coupled to said stem, said channel emerging into said dispensing head at said outlet opening, wherein said dispensing head includes a first bearing portion at a distance from a longitudinal axis of said stem so that said stem tilts to a first open position when pressure is applied to said first bearing portion, said dispensing head including a second bearing portion through which said longitudinal axis passes so that said stem moves axially to a second open position when pressure is applied to said second bearing portion,

wherein said first inlet opening does not bear against said sealing portion in a closed position, and said second inlet opening bears against said sealing portion in said closed position.

44. The device according to Claim 43, further comprising a peripheral portion coupled to said sealing portion and to said stem so as to define a peripheral space around said stem, said peripheral space being isolated from an interior space of said body in said closed position and being open to said interior space in said first and second open positions.

45. The device according to Claim 43, wherein said first and second bearing portions define surfaces on two different planes.

46. The device according to Claim 45, wherein said surfaces defined by said first and second bearing portions are parallel to each other.

47. The device according to Claim 43, wherein said channel emerges radially at said first and second inlet openings.

48. The device according to Claim 43, wherein said peripheral portion is attached to said stem and includes a lip with an edge which reaches said sealing portion in said closed position.

49. The device according to Claim 48, wherein at least a portion of said edge does not reach said sealing portion in said first and second open positions.

50. The device according to Claim 43, wherein said product is a cosmetic product.